MICROSCAN®

Appendix G: LVS® 95XX

Special Features

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GS1 Solution Partner

Disclaimer

The information and specifications described in this manual are subject to change without notice.

Latest Manual Version

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Technical Support

For technical support, e-mail: **helpdesk@microscan.com**.

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For current warranty information, see: **www.microscan.com/warranty**.

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Multi-Sector Barcode Verification

Many application-specific labels have more than one barcode symbol printed on them, such as shipping labels, blister packs, etc. The LVS-95XX software has a special feature design (sold separately) allowing the user to verify multiple barcode symbols in the field of view simultaneously. It is highly recommended when using the multi-barcode verification feature that all barcode symbologies use the same application standard. If however, the mixing of GS-1 compliant and ISO compliant barcodes on the same label is required, Microscan recommends choosing the Automatic GS1 or ISO application from the Setup Tab. Figure 1 shows an example of a label having multiple barcode symbols of different symbologies (sectors #3 and #4 are linear symbols while sectors #1 and #2 are 2-dimensional symbols) with multi-sector verification activated.

Multi-Barcode Verification is to be used as a process control tool only and not for primary verification of barcodes.

Multi-Barcode Verification is not a standard LVS-95XX feature and is priced separately. Contact Microscan or a Microscan distributor for pricing information.

Figure 1: Label with multiple barcode symbols of different symbologies

Activate Multi-Sector Barcode Verification

To activate the multi-sector barcode verification feature for your LVS-95XX system, follow the steps below. Note that activation requires an 8-digit code received from Microscan or a Microscan distributor.

1. Log on to the LVS-95XX and click the “Setup” tab.
2. Within the “Optional features” section, click the “Optional Features Activation” button (Figure 2). The “LVS-95XX feature list” appears (Figure 3).

Figure 3: LVS-95XX Feature List

Figure 2: “Optional Features Activation” button

3. Next to “Custom applications (multi-sector),” click “not available (click here to enter activation code).” The “Enter Activation Code” window appears (Figure 4). Enter the 8-digit activation code received from Microscan or a Microscan distributor and then click “Ok.”

Figure 4: Enter Activation Code window

4. The Multi-Barcode Verification feature is now active (Figure 5).

Figure 5: The “activated” status indicates that Multi-Barcode Verification is active

Multi-Sector Barcode Template Set-up

The first time multiple sector verification is used, it is necessary to create and save a reference template. The reference template contains the multiple grading sectors in locations that match the locations of the barcodes on the label when the label is in the field of view. The use of a template prevents repetitive drawing/redrawing of each sector for each label every time a label is placed in the field of view. The reference template is automatically saved with the user-provided name; thus, the reference name chosen should have meaning (i.e. correspond to a production run, etc.). Future production runs can use the reference template by simply choosing the “select an existing format” option when using the multiple sector verification feature. To verify multi-barcode symbols, follow the steps below:

1. Log on to the LVS-95XX.
2. Click the “Setup” tab and choose “Multiple sectors verification” within the “Optional features” section (Figure 6).

Figure 6: Multiple sectors verification option

3. Select either “Create a new format” or “Select an existing format” and click “Ok” (Figure 7).

   Choose “Create a new format” when performing Multiple Sector Verification for the first time as no default templates exist.

Figure 7: Select one of the above options

4. If you selected “Create a New Format,” enter the name of the new format in the text field and then click “Ok” (Figure 8). If you choose to “Select an existing format,” skip step 4 and proceed to step 5.

Figure 8: Enter the name of the new format

A. Choose the appropriate application standards for the barcode symbologies on the label and click "Ok" to proceed to the "Grading" Tab to complete the setup (Figure 9).

Figure 9: Choose an application standard

B. Place the multi-barcode label into the field of view and follow the steps below:

- To create sector #1, draw a box around one of the barcode symbols, leaving enough space for the quiet zones. The software automatically assigns an ID number to the sector.
- To create sector #2, press and hold the "Shift" keyboard button while drawing the box around the second barcode symbol. Release the "Shift" key when complete. The software automatically assigns this new sector with another ID number.
- To create additional sectors, repeat the previous step (step ii) for the remaining barcode symbols.
- Proceed to the "Multi-sector Barcode Verification Steps" section.

5. If you chose "Select an Existing Format" (from step #3 above), you have the option to "start" grading labels, "edit" the chosen template, or "delete" the chosen template (Figure 10).

- Select "Start" to begin grading barcode symbols on labels and proceed to the "Multi-sector Barcode Verification Steps" section of this appendix. Modifying sectors is not possible in this mode.
- Select "Edit" to make changes (add, delete, or redraw sectors) from the chosen template and go to the "Additional Features" > "Modify (Edit) Existing Format Templates" section of this appendix.
- Select "Delete" to delete the chosen template permanently.

Figure 10: Select "Start," Edit," or "Delete"

Multi-Sector Barcode Verification Steps

1. From the “Setup” tab, choose “Multiple sectors verification” within the “Optional features” section.
2. Choose “Select an Existing Format” and select the template then click Ok.
3. Select “Start” and click Ok.
4. Place the label that matched the pre-configured template on the glass.
5. Align the label so that all the barcode symbols fall within their respective pre-configured sectors. The system will verify each sector in succession once the system no longer detects motion of the label on the glass if using Automatic Grading mode otherwise click “Click to grade”.

Note: If the pre-configured sectors are not large enough to allow for quiet zones, quiet zone failures will result.

Figure 11: View of multiple sectors

Additional Features

Modify (Edit) Existing Format Templates

1. From the “Setup” tab choose “Multiple sectors verification” within the “Optional features” section.
2. Choose to “Select an Existing Format” and select the template.
3. Select “Edit.”
4. Click on the *sector number* you wish to modify. This selects the sector for modification. It might take some time as the system attempts to verify all currently existing sectors automatically. Wait for the sector outline to become bold.
   - **Delete** the sector by pressing the “Delete” keyboard button.
   - **Redraw** the sector as desired. Do not hold the “Shift” key as it will add a new sector reordering the sector count.
   - **Add** a new sector by pressing and holding the “Shift” key while drawing the box around the next barcode symbol. Release the “Shift” key when complete. The software automatically assigns this new sector with another ID number.

IMPORTANT: It is only possible to modify (add, delete, re-draw) sectors for a given template in “Edit” mode. It is not possible to change application standards. If the application standard originally chosen is incorrect, delete the template and begin again.

Print a Single-Sector Verification Report

Generate a Single-Sector Verification Report by first highlighting the desired sector. To highlight a sector (i.e. make the sector bold), click on the sector. The individual parameter grades appear on the screen. Click “Print” to send the Single-Sector Verification Report to the default printer.

Print a Multiple-Sector Verification Report

Generate a Multiple-Sector Verification Report for ALL sectors by pressing and holding the “Shift” keyboard button while clicking “Print” simultaneously. This report may take a few moments if a large amount of data is involved.

It is not possible to get a Multiple-Sector Verification Report that contains the individual parameter grades for each individual sector.

Change Verification Report to One-Column Format

The default format of the LVS-95XX Verification Report is to two columns and fits properly on letter or A4 size paper. However, the layout of a Verification Report can be changed so that data displays in a one-column format and prints properly when using a narrow printer, such as a 3” or 4” width printer. The designated printer must have a Windows® compatible driver. To enable single-column reports, follow the steps below:

1. Log on to the LVS-95XX.
   - Enter **lvs** (in uppercase or lowercase letters) in the “Operator ID” field.
   - Enter the password provided by Microscan technical support.
   - Click the “OK” button. You are now logged on to the LVS-95XX system.
2. Click the “Archive” tab.
3. Enter the following command in the “Query” text box located at the bottom of the screen. Letters are not case sensitive.

   update settings set settingvalue = “1” where settingname = “singlecolumn”

Figure 12: Enter the following command: update settings set settingvalue = “1” where settingname = “singlecolumn”

4. Click the “Execute query” button.
   - An “Operation Successful” message appears if the operation is successful (Figure 13). Figure 15 is an example of a single column format printout.
   - A “Query Error” message appears if the operation is unsuccessful (see example in Figure 14).

Figure 13: Operation successful message

Figure 14: Query error message

If an error occurs, attempt to resolve the error by clicking “OK” and then re-entering the command in the “Query” text box (as identified in step 3 above) ensuring the command text is entered correctly. Then, click the “Execute query” button. If you copied and pasted the query from this document, check the quotation marks. If they are not identical (i.e. facing different directions), edit them and try the query again. If the error message returns, contact Microscan or a Microscan distributor for resolution assistance.

Microscan
LVS-95XX Verification Report

Overall: 0.0/43/660 (F)

Person in charge of verification	Operator of this verification	approved by

2D	
Symbology	ECC-200
Decoded text	(01)0123645698741 4(10)L123
Cell size	53.8 mils
Decode	PASS
Contrast	3.9 (A) 76%
Modulation	4.0 (A)
Axial nonuniformity	0.0 (F) 13%
Grid nonuniformity	4.0 (A) 0%
Unused EC	4.0 (A) 100%
Fixed pattern damage	4.0 (A)
L1 (left of L finder)	4.0 (A)
L2 (bottom of L finder)	4.0 (A)
QZL1 (left quiet zone)	4.0 (A)
QZL2 (bottom quiet zone)	4.0 (A)
CTR (clock track regularity)	4.0 (A)
CTD (clock track damage)	4.0 (A)
SFP (solid fixed pattern)	4.0 (A)
OCTASA (overall clock track and solid area)	4.0 (A)
AG (average grade)	4.0 (A)
TR (transition ratio)	0.00
Cell height	57.3 mils
Cell width	50.2 mils
L1 Angle	1 degrees
X print growth	55%
Y print growth	53%
Total CW	32
Data CW	18
Corrections	0
Size	18x18
Rmin	5%
Rmax	81%

Other information	
ReportID	1368
Operator	LVS (LVS Master Administrator)
Application standard	ISO/IEC 15415/15416
Effective aperture	Reference number 43 (43 mil)
Wavelength	660nm
Date and time	25-Jul-2012 16:47 local; 25-Jul-2012 20:47 GMT
Time zone	GMT -4
Sector size	1.58" by 1.20"
Last calibration	never
Field of view	4.27" (camera is 1280x1024 pixels)
Serial numbers	Unit: 12778, Camera: 0
Software product and version	INTEGRA 95xx Version 3.0.8n
INTEGRA 95xx manufactured by:	Label Vision Systems, Inc. 101 Auburn Court Peachtree City, Georgia, 30269, USA www.lvs-inc.com

Figure 15: Verification report in one-column format

5. Log out of the LVS-95XX system and log back in using your designated Operator ID and Password. The next time you grade a symbol and print a report, the format of the LVS-95XX Verification Report displays in a one-column format and prints properly when using a narrow printer.

> **Important:** To return the LVS-95XX Verification Report to two-column format: Follow steps 1 and 2 above. Then, enter the following command in the “Query” text box. Letters are not case sensitive. Then click the “Execute query” button.
>
> update settings set settingvalue = “0” where settingname = “singlecolumn”

Microscan
LVS-95xx Verification Report

Overall: 0.0/27/660 (F)

Person in charge of verification	Operator of this verification	approved by

The required <FNC1> was not found

2D	
Symbology	QR Code
Version	1-L
Decoded text	12345678ABCDEFGHIJ
Cell size	0.853mm
Decode	PASS
Contrast	4.0 (A) 77%
Modulation	4.0 (A)
Axial nonuniformity	4.0 (A) 0%
Grid nonuniformity	4.0 (A) 10%
Unused EC	4.0 (A) 100%
Fixed pattern damage	4.0 (A)
Segment A1	4.0 (A)
Segment A2	4.0 (A)
Segment A3	4.0 (A)
Segment B1	4.0 (A)
Segment B2	4.0 (A)
Segment C	4.0 (A)
Format info	4.0 (A)
Cell height	0.850mm
Cell width	0.857mm
Angle	0 degrees
X print growth	56%
Y print growth	57%
Total CW	26
Data CW	19
Corrections	0
Size	21x21
Rmin	8%
Rmax	85%

Other information	
ReportID	851
Operator	admin (LVS Administrator)
Application standard	GS1 General Specifications
Effective aperture	Reference number 27 (0.686 mm)
Wavelength	660nm
Date and time	24-May-2012 22:33 local; 25-May-2012 02:33 GMT
Time zone	GMT -4
Sector size	24.6mm by 24.6mm
Last calibration	23-May-2012 21:08 local; 24-May-2012 01:08 GMT
Field of view	137.3mm (camera is 2176x1632 pixels)
Serial numbers	Unit: 12778, Camera: -90407673
Software product and version	INTEGRA 95xx Version 3.0.8i
INTEGRA 95xx manufactured by:	Label Vision Systems, Inc. 101 Auburn Court Peachtree City, Georgia, 30269, USA www.lvs-inc.com

Figure 16: Verification report in two-column format

6. Log out of the LVS-95XX system and log back in using your designated Operator ID and Password. The next time you grade a symbol and print a report, the LVS-95XX Verification Report will display in a two-column format.

Change Verification Report Signature Lines

The default LVS-95XX Verification Report is provided with two signature lines; however, system settings can be changed so that Verification Reports print with one signature line, two signature lines (default), three signature lines, or no signature line (see figures 20 – 23 below for example of each).

To change the number of signature lines appearing on the LVS-95XX Verification Report, follow the steps below.

1. Log on to the LVS-95XX.
   - Enter **lvs** (in uppercase or lowercase letters) in the “Operator ID” field.
   - Enter the password provided by Microscan technical support.
   - Click the “OK” button; you are now logged on to the LVS-95XX system.
2. Click the “Archive” tab.
3. Enter the following command in the “Query” text box located at the bottom of the screen (Figure 17). Note that letters are not case sensitive.
   - For no signature line, enter:
     update settings set settingvalue = “0” where settingname = “signatures”
   - For one signature line, enter:
     update settings set settingvalue = “1” where settingname = “signatures”
   - For “default” two signature lines, enter:
     update settings set settingvalue = “2” where settingname = “signatures”
   - For three signature lines, enter:
     update settings set settingvalue = “3” where settingname = “signatures”

Figure 17: Enter one of the above commands in the “Query” text box

4. Click the “Execute query” button.
   - An “Operation Successful” message appears if the operation is successful (Figure 18).
   - A “Query Error” message appears if the operation is unsuccessful (see example in Figure 19).

Figure 18: Operation successful message

Figure 19: Query error message

If an error occurs, attempt to resolve the error by clicking “OK” and then re-entering the command in the “Query” text box (as identified in step 3 above) ensuring the command text is entered correctly. Then, click the “Execute query” button. If you copied and pasted the query from this document, check the quotation marks. If they are not identical (i.e. facing different directions), edit them and try the query again. If the error message returns, contact Microscan or a Microscan distributor for resolution assistance

5. Verify the updated changes to the Verification Report by clicking the Grading tab and then clicking the “Print” button; the Verification Report appears, allowing you to verify the number of signature lines.
6. Log out of the LVS-95XX system and log back in using your designated Operator ID and Password.

Sample Signature Line Formats

One Signature Line

Microscan
LVS-95xx Verification Report

Overall: 3.1/10/660 (B)

Operator signature

Quiet Zone failures reduced the overall grade by 23%
NOTE: Label height is less than recommended for SSCC

1D	
Symbology	GS1-128
Decoded text	00006141411234567890

Other information	
ReportID	12
Operator	LVS (LVS Master Administrator)

Figure 20: Verification Report with one signature line created by entering the following command:
update settings set settingvalue = "1" where settingname = "signatures"

Two Signature Lines (default format)

Microscan
LVS-95xx Verification Report

Overall: 4.0/06/660 (A)

Operator signature

Second signature

1D	
Symbology	UPC-A
Decoded text	012345678905
Product lookup	UPC-A master grade
Xdim	0.330mm 100%
Edge determ	PASS
Min Reflect	PASS

Other information	
ReportID	395
Operator	admin (LVS Administrator)
Application standard	GS1 General Specifications
Effective aperture	Reference number 06 (0.152 mm)
Wavelength	660nm
Date and time	15-Aug-2007 10:52 local: 15-Aug-2007 14:52 GMT

Figure 21: Verification Report with two signature lines created by entering the following command:
update settings set settingvalue = "2" where settingname = "signatures"

Three Signature Lines

Figure 22: Verification Report with three signature lines created by entering the following command:
update settings set settingvalue = "3" where settingname = "signatures"

No Signature Line

Figure 23: Verification Report with no signature line created by entering the following command:
update settings set settingvalue = "0" where settingname = "signatures"

Remove Data Structure Analysis Report with Verification Report

By default, the "Verification Report" automatically includes the "Data Structure Analysis Report." To remove the "Data Structure Analysis Report" from the "Verification Report," follow the steps below.

1. Log on to the LVS-95XX.
   - Enter **lvs** (in uppercase or lowercase letters) in the "Operator ID" field.
   - Enter the password provided by Microscan technical support in the "Password" field.
   - Click the "OK" button; you are now logged on to the LVS-95XX system.
2. Click the "Archive" tab.
3. Enter the following command in the "Query" text box located at the bottom of the screen (Figure 24). Letters are not case sensitive. The value shown below is a -1 (negative one).

   update settings set settingvalue = "-1" where settingname = "IncludePrintStructure"

   Query: **update settings set settingvalue = "-1" where settingname = "IncludePrintStructure"**

   Figure 24: Enter the following command in the "Query" text box: update settings set settingvalue = "-1" where settingname = "IncludePrintStructure"

4. Click the "Execute query" button.
   - An "Operation Successful" message appears if the operation is successful (Figure 25).
   - A "Query Error" message appears if the operation is unsuccessful (see example in Figure 26).

Figure 25

Figure 26

   If an error occurs, attempt to resolve the error by clicking "OK" and then re-entering the command in the "Query" text box (as identified in step 3 above) ensuring the command text is entered correctly. Then, click the "Execute query" button. If you copied and pasted the query from this document, check the quotation marks. If they are not identical (i.e. facing different directions), edit them and try the query again. If the error message returns, contact Microscan or a Microscan distributor for resolution assistance.

5. Log out of the LVS-95XX system and log back in using your designated Operator ID and Password.
6. The "Data Structure Analysis Report" will not appear on the "Verification Report."

Important: To include the "Data Structure Analysis Report" on the "Verification Report," enter either "0" or "1" in the "Query" text box.

IncludePrintStructure=0 (Default) and IncludePrintStructure=1 are the same in that a Structure table is added to the bottom of the "Verification Report" when using either command.

update settings set settingvalue = "0" where settingname = "IncludePrintStructure"
or
update settings set settingvalue = "1" where settingname = "IncludePrintStructure"

IncludePrintStructure – New Functions

Software version 3.0.9kk includes changes to the IncludePrintStructure and added functionality of the SeparateDecodedText parameter.

New Function = IncludePrintStructure

IncludePrintStructure=0 (Default) and IncludePrintStructure=1 are the same in that a Structure table is added to the bottom of the LVS-95XX report when using either command.

To separate the GS1 AI data out of the decoded text, use the following commands:

- IncludePrintStructure=2 displays the decoded text as GS1 AI in the main table in in rows based on the number of AIs present, but does not include a Structure table at the bottom of the report.
- IncludePrintStructure=3 displays the decoded text as GS1 AI in the main table in rows based on the number of AIs present and includes a separate Structure table at the bottom of the report.

New Parameter = SeparateDecodedText

The SeparateDecodedText feature was added to allow for long character strings and large amounts of data that did not print well on the page. Now the user can move the decoded text into a separate table at the top of the report.

To separate the decoded text, use the following commands:

- SeperateDecodedText=0 (Default) (OFF) results in the decoded text being displayed in the main table.
- SeperateDecodedText=1 (ON) results in the decoded text being displayed in a separate table at the top of the report.
  - When IncludePrintStructure=2 or IncludePrintStructure=3 are used with the SeparateDecodedText=1 (On), the GS1 AI structure does not work. The GS1 AI structure is displayed as one line of decoded text in the Decoded Text Table.
  - When the SeparateDecodedText=1 (On), the IncludePrintStructure=1 and IncludePrintStructure=3 reports both have a Structure Table at the bottom of the report and decoded text is displayed in a separate table.
  - When the SeparateDecodedText=1 (On), the IncludePrintStructure=2 produces a report with a separate decoded Text table, but does not have a Structure Table.

Include Print Structure Command (ISP)	Separate Decoded Text Command (SDT)	Status of Structure Table	Status of Decoded Text Table
IPS=0 (Default)	SDT=0	Has Structure Tab	Decoded Text in 1D or 2D table
IPS=1	SDT=0	Has Structure Tab	Decoded Text in 1D or 2D table
IPS=0 (Default)	SDT=1	Has Structure Tab	Separate Decoded text table at the top of the report.
IPS= -1	SDT=0	No Structure Tab	Decoded Text in 1D or 2D table
IPS= -1	SDT=1	No Structure Tab	Separate Decoded text table at the top of the report.

Include Print Structure Command (ISP)	Separate Decoded Text Command (SDT)	Status of Structure Table	Status of Decoded Text Table
IPS=2	SDT=0	No Structure Tab	Decoded Text displayed in 1D or 2D table with GS1 data AI displayed in separate rows. (Global Trade, Expired, Batch Lot)
IPS=2	SDT=1	No Structure Tab	Separate Decoded text table at the top of the report.
IPS=3	SDT=0	Has Structure Tab	Decoded Text displayed in 1D or 2D table with GS1 data AI displayed in separate rows. (Global Trade, Expired, Batch Lot)
IPS=3	SDT=1	Has Structure Tab	Separate Decoded text table at the top of the report.

Note: “0” equals Off. “1” equals On.

IncludePrintStructure=1 or IncludePrintStructure=0 (Default)

Report Includes the Structure table. The Decoded text is presented in the 2D table shown in the image below.

"IncludePrintStructure=1" and "IncludePrintStructure=0" have the same functions. "IncludePrintStructure=0" is the default setting.

Microscan
LVS-95xx Verification Report

Overall: 4.0/08/660 (A)

Reference: IncludePrintStructure=0

Operator signature

Second signature

2D

Symbology	GS1 Data Matrix
Decoded text	01000001230000171718063010ABC123
Cell size	41.8 mils
Decode	PASS
Contrast	4.0 (A) 83%
Modulation	4.0 (A)
Reflectance margin	4.0 (A)
Axial nonuniformity	4.0 (A) 1%
Grid nonuniformity	4.0 (A) 4%
Unused EC	4.0 (A) 100%
Fixed pattern damage	4.0 (A)
L1 (left of L finder)	4.0 (A)
L2 (bottom of L finder)	4.0 (A)
QZL1 (left quiet zone)	4.0 (A)
QZL2 (bottom quiet zone)	4.0 (A)
CTR (clock track regularity)	4.0 (A)
CTD (clock track damage)	4.0 (A)
SFP (solid fixed pattern)	4.0 (A)
OCTASA (overall clock track and solid area)	4.0 (A)
AG (average grade)	4.0 (A)
TR (transition ratio)	0.00
Cell height	41.7 mils
Cell width	41.8 mils
L1 Angle	0 degrees
X print growth	52%
Y print growth	52%
Total CW	40
Data CW	22
Corrections	0
Size	20x20
Rmin	1%
Rmax	84%

Other information

GS1 Data	(01)00000123000017(17)180630(10)ABC123
GS1 Pass/Fail	PASS
ReportID	205
Operator	LVS (LVS Master Administrator)
Application standard	GS1 General Specifications
GS1 Table	Table 11 - GS1 GSRNs
GS1 Limit Action	Don't generate warning if Xdim or label height is outside GS1 limits
Effective aperture	Reference number 08 (8 mil)
Wavelength	660nm
Date and time	29-Jun-2015 16:02 local; 29-Jun-2015 20:02 GMT
Time zone	GMT -4
Sector size	1.33" by 1.27"
Last calibration	22-Jun-2015 14:29 local; 22-Jun-2015 18:29 GMT
Field of view	3.00" (camera is 2592x1944 pixels)
Serial numbers	Unit: 13542, On #21510330
Software product and version	INTEGRA 95xx Version 3.0.9mm
INTEGRA 95xx manufactured by:	Label Vision Systems, Inc. 101 Auburn Court Peachtree City, Georgia, 30269, USA www.lvs-inc.com

Structure

Embedded data	Description	Value
<232>	FNC1	<FNC1>
01	Global Trade Item Number (GTIN)	(01)
00000123000017	Global Trade Item Number (GTIN)	00000123000017
17	Expiration Date (YYMMDD)	(17)
180630	Expiration Date (YYMMDD)	180630
10	Batch or Lot Number	(10)
ABC123	Batch or Lot Number	ABC123

IncludePrintStructure=2

This report Includes GS1 data. The AI is displayed in the 2D table within the following rows: **Global Trade Item Number**, **Expiration Date**, and **Batch or Lot Number**. This report does not include the Structure table.

Microscan
LVS-95xx Verification Report

Overall: 4.0/08/660 (A)

Reference: IncludePrintStructure=2

Operator signature

Second signature

2D	
Symbology	GS1 Data Matrix
Global Trade Item Number (GTIN)	(01)00000123000017
Expiration Date (YYMMDD)	(17)180630
Batch or Lot Number	(10)ABC123
Cell size	41.8 mils
Decode	PASS
Contrast	4.0 (A) 83%
Modulation	4.0 (A)
Reflectance margin	4.0 (A)
Axial nonuniformity	4.0 (A) 1%
Grid nonuniformity	4.0 (A) 4%
Unused EC	4.0 (A) 100%
Fixed pattern damage	4.0 (A)
L1 (left of L finder)	4.0 (A)
L2 (bottom of L finder)	4.0 (A)
QZL1 (left quiet zone)	4.0 (A)
QZL2 (bottom quiet zone)	4.0 (A)
CTR (clock track regularity)	4.0 (A)
CTD (clock track damage)	4.0 (A)
SFP (solid fixed pattern)	4.0 (A)
OCTASA (overall clock track and solid area)	4.0 (A)
AG (average grade)	4.0 (A)
TR (transition ratio)	0.00
Cell height	41.7 mils
Cell width	41.8 mils
L1 Angle	0 degrees
X print growth	52%
Y print growth	52%
Total CW	40
Data CW	22
Corrections	0
Size	20x20
Rmin	1%
Rmax	84%

Other information	
GS1 Data	(01)00000123000017(17)180630(10)ABC123
GS1 Pass/Fail	PASS
ReportID	207
Operator	LVS (LVS Master Administrator)
Application standard	GS1 General Specifications
GS1 Table	Table 11 - GS1 GSRNs
GS1 Limit Action	Don't generate warning if Xdim or label height is outside GS1 limits
Effective aperture	Reference number 08 (8 mil)
Wavelength	660nm
Date and time	29-Jun-2015 16:04 local; 29-Jun-2015 20:04 GMT
Time zone	GMT -4
Sector size	
Last calibration	
Field of view	
Serial numbers	
Software produc	
INTEGRA 95xx	

To display the decoded text in a separate table, use the "SeparateDecodedText=1" command.

Note: GS1 AI Structure will be lost.

IncludePrintStructure=3

This report Includes the Structure table. GS1 AI data is displayed in the 2D table within the following rows: **Global Trade Item Number**, **Expiration Date**, and **Batch or Lot Number**.

Microscan
LVS-95xx Verification Report

Overall: 4.0/08/660 (A)

Reference: IncludePrintStructure=3

Operator signature

Second signature

2D	
Symbology	GS1 Data Matrix
Global Trade Item Number (GTIN)	(01)00000123000017
Expiration Date (YYMMDD)	(17)180630
Batch or Lot Number	(10)ABC123
Cell size	41.8 mils
Decode	PASS
Contrast	4.0 (A) 83%
Modulation	4.0 (A)
Reflectance margin	4.0 (A)
Axial nonuniformity	4.0 (A) 1%
Grid nonuniformity	4.0 (A) 4%
Unused EC	4.0 (A) 100%
Fixed pattern damage	4.0 (A)
L1 (left of L finder)	4.0 (A)
L2 (bottom of L finder)	4.0 (A)
QZL1 (left quiet zone)	4.0 (A)
QZL2 (bottom quiet zone)	4.0 (A)
CTR (clock track regularity)	4.0 (A)
CTD (clock track damage)	4.0 (A)
SFP (solid fixed pattern)	4.0 (A)
OCTASA (overall clock track and solid area)	4.0 (A)
AG (average grade)	4.0 (A)
TR (transition ratio)	0.00
Cell height	41.7 mils
Cell width	41.8 mils
L1 Angle	0 degrees
X print growth	52%
Y print growth	52%
Total CW	40
Data CW	22
Corrections	0
Size	20x20
Rmin	1%
Rmax	84%

Other information	
GS1 Data	(01)00000123000017(17)180630(10)ABC123
GS1 Pass/Fail	PASS
ReportID	208
Operator	LVS (LVS Master Administrator)
Application standard	GS1 General Specifications
GS1 Table	Table 11 - GS1 GSRNs
GS1 Limit Action	Don't generate warning if Xdim or label height is outside GS1 limits
Effective aperture	Reference number 08 (8 mil)
Wavelength	660nm
Date and time	29-Jun-2015 16:04 local; 29-Jun-2015 20:04 GMT
Time zone	GMT -4
Sector size	1.34" by 1.24"
Last calibration	22-Jun-2015 14:29 local; 22-Jun-2015 18:29 GMT
Field of view	3.00" (camera is 2592x1944 pixels)
Serial m	
Softwar	
INTEGR	

To display the decoded text in a separate table, use the "SeparateDecodedText=1" command. Note: GS1 AI Structure will be lost.

Structure		
Embedded data	Description	Value
<232>	FNC1	<FNC1>
01	Global Trade Item Number (GTIN)	(01)
00000123000017	Global Trade Item Number (GTIN)	00000123000017
17	Expiration Date (YYMMDD)	(17)
180630	Expiration Date (YYMMDD)	180630
10	Batch or Lot Number	(10)
ABC123	Batch or Lot Number	ABC123

IncludePrintStructure=3 and SeparateDecodedText=1

This report Includes the Structure table. Decoded text is displayed in a separate table.

Microscan
LVS-95xx Verification Report

Overall: 4.0/08/660 (A)

Reference: IncludePrintStructure=3
Additional reference: SeperateDecodedText=1

Operator signature

Second signature

Decoded text
01000001230000171718063010ABC123

2D	
Symbology	GS1 Data Matrix
Cell size	41.8 mils
Decode	PASS
Contrast	4.0 (A) 83%
Modulation	4.0 (A)
Reflectance margin	4.0 (A)
Axial nonuniformity	4.0 (A) 1%
Grid nonuniformity	4.0 (A) 4%
Unused EC	4.0 (A) 100%
Fixed pattern damage	4.0 (A)
L1 (left of L finder)	4.0 (A)
L2 (bottom of L finder)	4.0 (A)
QZL1 (left quiet zone)	4.0 (A)
QZL2 (bottom quiet zone)	4.0 (A)
CTR (clock track regularity)	4.0 (A)
CTD (clock track damage)	4.0 (A)
SFP (solid fixed pattern)	4.0 (A)
OCTASA (overall clock track and solid area)	4.0 (A)
AG (average grade)	4.0 (A)
TR (transition ratio)	0.00
Cell height	41.7 mils
Cell width	41.8 mils
L1 Angle	0 degrees
X print growth	52%
Y print growth	52%
Total CW	40
Data CW	22
Corrections	0
Size	20x20
Rmin	1%
Rmax	84%

Other information	
GS1 Data	(01)00000123000017(17)180630(10)ABC123
GS1 Pass/Fail	PASS
ReportID	212
Operator	LVS (LVS Master Administrator)
Application standard	GS1 General Specifications
GS1 Table	Table 11 - GS1 GSRNs
GS1 Limit Action	Don't generate warning if Xdim or label height is outside GS1 limits
Software product and version	INTEGRA 95xx Version 3.0.9mm
INTEGRA 95xx manufactured by:	Label Vision Systems, Inc. 101 Auburn Court Peachtree City, Georgia, 30269, USA www.lvs-inc.com

Note that when using the SeparateDecodedText "On" command, the text is displayed in a separate table with one row. The GS1 AI data is not separated out into individual rows.

Structure		
Embedded data	Description	Value
<232>	FNC1	<FNC1>
01	Global Trade Item Number (GTIN)	(01)
00000123000017	Global Trade Item Number (GTIN)	00000123000017
17	Expiration Date (YYMMDD)	(17)
180630	Expiration Date (YYMMDD)	180630
10	Batch or Lot Number	(10)
ABC123	Batch or Lot Number	ABC123

Change CommPort Settings

Communication Port settings allow you define the port where data is published.

The default CommPort setting is 1, indicating that data is published to CommPort 1. To publish data to a different CommPort, or to turn off CommPort, follow the steps below.

1. Log on to the LVS-95XX.
   - Enter **lvs** (in uppercase or lowercase letters) in the “Operator ID” field.
   - Enter the password provided by Microscan technical support in the “Password” field.
   - Click the “OK” button; you are now logged on to the LVS-95XX system.
2. Click the “Archive” tab.
3. Enter the following command in the “Query” text box located at the bottom of the screen (Figure 27). Note that letters are not case sensitive.
   - To turn off CommPort, enter:
     update settings set settingvalue = “0” where settingname = “commport”
   - To publish data to CommPort 2, enter:
     update settings set settingvalue = “2” where settingname = “commport”
   - To publish data to CommPort 3, enter:
     update settings set settingvalue = “3” where settingname = “commport”

Follow the above examples for each desired CommPort.

Figure 27: Enter one of the above commands in the “Query” text box.

4. Click the “Execute query” button.
   - An “Operation Successful” message appears if the operation is successful (Figure 28).
   - A “Query Error” message appears if the operation is unsuccessful (see example in Figure 29).

Figure 28: Operation successful message

Figure 29: Query error message

If an error occurs, attempt to resolve the error by clicking “OK” and then re-entering the command in the “Query” text box (as identified in step 3 above) ensuring the command text is entered correctly. Then, click the “Execute query” button. If you copied and pasted the query from this document, check the quotation marks. If they are not identical (i.e. facing different directions), edit them and try the query again. If the error message returns, contact Microscan or a Microscan distributor for resolution assistance.

5. Log out of the LVS-95XX system and log back in using your designated Operator ID and Password.

Automatic Login

The LVS-95XX requires a user to enter an Operator ID and Password when logging onto the system. The Automatic Login feature, when enabled, allows a user to automatically log on to the LVS-95XX without entering an Operator ID and Password. The sections below explain how to enable, disable, and bypass Automatic Login.

Automatic Login is not a standard LVS-95XX feature and is priced separately. Refer to the LVS-95XX Price Book for additional information, or contact Microscan or your Microscan distributor. The Automatic Login feature voids 21 CFR Part 11 compliance.

Enable Automatic Login

Three steps are required to enable Automatic Login. Each step is described in the following sections.

1. Locate your Security Serial number.
2. Activate Automatic Login.
3. Enter “Automatic” as an Operator.

Step One: Locate Your Security Serial Number

1. Turn on the LVS-95XX; the “Welcome” page appears.
2. Double-click the term “Version”.

Figure 30: Double-click on “Version”

3. Locate the Security Serial number (Figure 31) and provide this number to a Microscan distributor or Microscan Headquarters via e-mail or phone.

Figure 31: Security Serial Number

Step Two: Activate Automatic Login

After receiving your Security Serial number, Microscan (or Microscan distributor) will e-mail you an 8-digit activation code and the AddFeature.exe program. Follow the steps below to activate the Automatic Login feature.

1. Open the AddFeature.exe program. The Add Feature window appears (Figure 32).

Figure 32: Add Feature window

2. Enter **9502** in the “Feature unlock code” field.
3. Enter the 8-digit activation code sent from Microscan in the “Activation code” field.
4. Click the “Activate feature” button. See the next step for further instructions.

Step Three: Setup “Automatic” as an Operator

1. Turn on the LVS-95XX.
2. Click on any tab at the top of the screen. The Login box appears (Figure 33).

Figure 33: Login box

- Enter **LVS** as the Operator ID.
- Enter **LVS** followed by the password provided by Microscan in the “Password” field. For example, if 1234 is the password, enter **LVS1234**.
- Click “OK.”

3. Click the “Setup” tab, and then click “Setup Operators” (Figure 34).

Figure 34: "Setup operators" button on the "Setup" tab

4. The Operator Administration window appears (Figure 35).

Figure 35: Operator Administration window

5. Enter "Automatic" in both the "Operator ID (short name)" field and "Operator name (full)" field (Figure 36).
6. Enter "login" in the "Password" field.
7. Select the desired permissions within the "Permissions" section.
8. Click "Done."
9. Click "Save Changes."

Figure 36: Click "Done" and then "Save changes"

10. Log out, and then log back in to the LVS-95XX. The Automatic Login feature is now enabled, allowing you to log in to the LVS-95XX without entering an Operator ID and Password.

Disable Automatic Login

To disable Automatic Login, the “Automatic” operator must be deleted from the LVS-95XX. See the steps below for detailed instructions.

Only users granted the “Allow Add/Change Operator” permission has the ability to delete operators from the system.

1. Log into the system.
2. Click the “Setup” tab, and then click “Setup Operators.”
3. Select “Automatic” from the “Operators” list (Figure 37).
4. Click “Delete this operator.”
5. Click “Done.”
6. Click “Save Changes.”

Figure 37: Click “Delete this operator”

Bypass Automatic Login

Follow the steps below to bypass Automatic Login and enter an Operator ID and Password when logging in to the LVS-95XX.

1. Start the LVS-95XX; the “Welcome” page appears.
2. Press the “CTRL + L” keyboard buttons.
3. Click on any tab at the top of the screen. The Login box appears requiring you to enter an Operator ID and Password.

Custom Reports

Important note about the use of the GS1 1D and 2D report templates: The GS1 1D and 2D report templates may be used by any organization or company as part of a quality program while respecting the Copyright of the GS1 logo (or any heading or text that imply actual GS1 endorsement (subject to local licensing agreements such as accreditation programs, which may allow exceptions).

Important note about the Custom Report feature: Microsoft® Word must be installed on the computer running the LVS-95XX software to use the Custom Report feature. The LVS-95XX software is compatible with Microsoft Word version 97 through 2010. The default templates are in Word 1997 – 2003 document format (.doc) and can be saved in the higher version document format (.docx).

The LVS-95XX software populates a custom report by searching the document template for parameter names encased in curly brackets; for example, **{overall grade}**. It then substitutes the verification data for the current barcode in place of the associated parameter name. This process is similar to a mail merge. Valid parameter names (along with sample verification data) are listed in the table below.

During LVS-95XX software installation, a default Barcode Verification Template as defined by GS1 General Specifications is stored in one of the following locations:

- Windows XP- C:\Program Files\I9500\CustomReportTemplates
- Windows 7- C:\ProgramData\I9500\CustomReportTemplates

Note: C:\ProgramData is hidden by default in Windows 7. Contact your system administrator for access to this folder.

The LVS-95XX Series offers two custom reports:

- GS1 1D Report.doc
- GS1 2D Report.doc

The two reports listed above appear for new system installations of LVS-95XX software version 3.0.9. If an LVS-95XX system is being upgraded from a previous software version to version 3.0.9, the above two reports appear, along with a third report entitled GS1 Report.doc. The GS1 Report.doc is a copy of the GS1 1D Report.doc and contains the same data; thus, you can review the GS1 1D Report.doc or GS1 Report.doc to review the 1D report data.

Add or remove parameters and reformat the documents as desired. It is good practice, to make a copy of the default template, modify the copy, and rename the new document leaving the default template unaltered. The naming convention of a custom template determines the Application Standard used in grading symbols; either GS1 General Specifications or ISO 15415/15416. Custom templates with names that begin with GS1 (e.g. GS1 1D Report.doc) use the GS1 General Specifications Application Standards where custom templates with names that do not begin with GS1 use ISO 15415/15416 Application Standards.

Important note about custom template file names: If the file name begins with “GS1” the LVS-95XX software will apply GS1 General Specifications Application Standard rules to barcode verification otherwise ISO 15415/15416 Application Standard rules apply to barcode verification.

The user-created custom templates will be available for use in the LVS-95XX software **only** after the LVS-95XX software has been completely closed (returning to the “Welcome” screen is insufficient). Custom templates are located with the Application Standards in the Application standards drop-down box on the

"Setup" tab (Figure 38): Click "Configure available standards" and ensure a check mark "√" and "yes" are selected in the "Available column" of the Application Standards window.

Figure 38: Application standards drop-down box

To customize the default template, copy the default template (to protect the original) and use Microsoft Word to add and remove as many parameter names encased in curly brackets as desired. Change any other formatting as desired and save the template (using the above-indicated naming convention) in the appropriate folder for your operating system.

To create a completely new template (non-GS1 formatted), use Microsoft Word to create a new document, add as many parameter names encased in curly brackets as desired, format as desired, and save the template (using the above indicated template naming convention) in the appropriate folder for your operating system. Valid parameter names (along with sample verification data) are listed in the table below.

After saving your custom template, launch the LVS-95XX software, log in, and navigate to the set-up tab. The new custom template will appear in the Application standard drop-down window. Click "Configure available standards" and ensure a check mark "√" and "yes" are selected in the "Available column" of the Application Standards window.

Parameter Name	Example Parameter Value
AG (Average Grade)	4.0 (A)
Application Standard	AS9132-A / AIM DPM Cat 0
Axial Nonuniformity	3.0 (B) 7%
Bar Growth	5%
Bar Height	12.614mm
Blemish	0.0 (F) 62%
Cell Height	9.7 mils

Parameter Name	Example Parameter Value
Cell Size	9.0 mils
Cell Width	8.4 mils
Codeword PQ (Print Quality)	4.0 (A)
Codeword Yield	3.0 (B) 69%
Company Name	Microscan
Contrast	1.6 (C) 41%
Corrections	0
CTR (Clock Track Regularity)	4.0 (A)
CTD (Clock Track Damage)	4.0 (A)
Data CW	12
Date and Time	01-Jun-2007 11:28 local; 01-Jun-2007 15:28 GMT
Decodability	0.0 (F) 0%
Decode	FAIL
Decoded Text	9533027MW6 Demo
Defects	3.7 (A) 14%
Distortion Angle	PASS 0º
Dots Out of Range	PASS 0%
Edge Determ	PASS
Edge Determ (failures reduced overall grade)	75% ERROR
Effective Aperture	Reference number 20 (20 mil)
Erasures	0
Field of View	0.18" (camera is 92x106 pixels)
Fixed Pattern Damage	4.0 (A)
Grid Nonuniformity	4.0 (A) 1%
GT	47%
Human Readable	?
L1 (Left of L finder)	4.0 (A)
L1 Angle	179 degrees
L2 (Bottom of L finder)	4.0 (A)
Last Calibration	Never
Min Reflect	PASS
Minimum EC	FAIL 0%
Modulation	4.0 (A)
NW Ratio	1:3
OCTASA (Overall Clock Track and Solid Area)	4.0 (A)
Operator	Microscan (Microscan Master Administrator)
Overall Grade	0.0/10/660 (F)

Parameter Name	Example Parameter Value
Product Lookup	UPC-A master grade
Quiet Zone	FAIL
QZL1 (left quiet zone)	4.0 (A)
QZL2 (bottom quiet zone)	4.0 (A)
ReportID	24
Rmax	94%
Rmin	7%
Row Height	19.1 mils
Sector Size	1.55" by 1.05"
Serial Numbers	Unit: 60999, Camera: 135268
SFP (Solid Fixed Pattern)	4.0 (A)
Size	16x16
Software Product and Version	LVS-95XX Version X.X.X
Symbology	ECC-200
Thumbnail	Most recent image scanned
Time Zone	GMT-4
Total CW	24
TR (Transition Ratio)	0.00
Unused EC	4.0 (A) 100%
Warning	Extended area around symbol contains extremes of reflectance
Wavelength	660nm
X Print Growth	50%
Xdim	0.350mm
Y Print Growth	48%

The default report uses only some of the above parameters; however, all the parameters listed in the table above are available if required.

Below are examples using the aforementioned parameter values.

This text in the template:	**This text in the report:**
The symbology for this code is {symbology}	The symbology for this code is ECC-200
The cell size for this code is {cell size}	The cell size for this code is 9.0 mils

Change Reference Report Parameters on Export

The LVS-95XX allows you to view a report of all verification reports that contain the chosen reference data. Select the Reference by navigating to the Setup Tab and choosing the desired Reference from the drop down list. Navigate to the Archive Tab and click the “Reference Report” button.

Export a Reference Report by clicking the “**Export reference data”** button on the **Archive** tab. When a Reference Report is exported, all parameters for a given reference are exported. The steps below explain how to define only the parameters you wish to export on a Reference Report.

1. Open Notepad or WordPad and type the desired parameters in the order you wish them to appear on the Reference Report. Delimit parameter names using vertical bars “|” without spaces between parameters and the vertical bars (Figure 39).

Figure 39: Parameter names delimited by vertical bars

2. Save the file (click **File** and then **Save** from the menu bar).
3. Name the file **ExportOverride.vbd** (not case sensitive). A .vbd file is a vertical bar delimited file.
4. Save the file to the following Windows Explorer location:
   - If using a **Windows® XP** operating system, save the file to **C:\Program Files\I9500**
   - If using a **Windows® 7** operating system, save the file to **C:\ProgramData\I9500**
5. Click the **Save** button.

Figure 40: Name the file “ExportOverride.vbd”

6. Export the reference data by clicking the **Export Reference Data** button on the **Archive** tab.
7. Select either **Yes** or **No** when asked if you want to include all records (Figure 41).

Figure 41: Select Yes or No

8. Select the desired file location and name, and then click the **Save** button.
9. Open the file and notice that the Reference Report displays with the new, user-defined parameters.
10. Delete the file ExportOveride.vbd to return to the default export reference report.

Exclude “All” Sector ID on Export

By default, when a Reference Report is exported, all verification report data is exported regardless of the sector name. The steps below explain how to export all sectors except for the sector ID named “All,” which is a summary record generated when using Multi-sector verification or a Multi-Rotation application standard.

To exclude the “All” sector ID on export, follow the steps below:

1. Log on to the LVS-95XX.
   - Enter **lvs** (in uppercase or lowercase letters) in the “Operator ID” field.
   - Enter the password provided by Microscan technical support in the “Password” field.
   - Click the “OK” button; you are now logged on to the LVS-95XX system.
2. Click the “Archive” tab.
3. Enter the following command in the “Query” text box located at the bottom of the screen (Figure 42). Note that letters are not case sensitive.

   update settings set settingvalue = “1” where settingname = “ExcludeAllOnExport”

Figure 42: Enter the following command in the “Query” text box: update settings set settingvalue = “1” where settingname = “ExcludeAllOnExport”

4. Click the “Execute query” button.
   - An “Operation Successful” message appears if the operation is successful (Figure 43).
   - A “Query Error” message appears if the operation is unsuccessful (see example in Figure 44).

Figure 43: Operation Successful message

Figure 44: Query error message

   If an error occurs, attempt to resolve the error by clicking “OK” and then re-entering the command in the “Query” text box (as identified in step 3 above) ensuring the command text is entered correctly. Then, click the “Execute query” button. If the error message re-appears, contact your distributor or Microscan Headquarters for resolution assistance.

5. You may now log out of the LVS-95XX system and log back in using your designated Operator ID and Password.
6. When a Reference Report is exported, all verification report data, except for the “All” sector ID, is exported.

Important: To include the “All” sector ID on export, enter the following command in the “Query” text box:

Update settings set settingvalue = “0” where settingname = “ExcludeAllOnExport”

Windows® Lockdown

The Windows® Lockdown feature locks down a Windows® XP operating system, thus keeping the system secure and preventing users from changing system settings. The Windows® Lockdown feature supports Windows® XP only; Windows® 7 and Windows® Vista is not supported.

To lockdown a Windows® XP operating system, follow the steps below.

1. Log in to the LVS-95XX software. You must log in as a user who has “Allow Add/Change Operator” permissions (Figure 45).

Figure 45: “Allow Add/Change operator” permission

2. Click the **Setup** tab and then click the **Setup Operators** button; the **Operator Administration** window appears (Figure 46).

Figure 46: Operator Administration window

3. Click the **Add new operator** button.
4. Type **windows** in the **Operator ID (short name)** field; letters are not case sensitive.
5. Type **windows** in the **Operator name (full)** field; letters are not case sensitive.
6. Type a user-defined password in the **Password** field.

   Valid passwords contain at least eight (8) characters; at least one (1) letter from A to Z; and at least one (1) digit from 0 to 9.
7. Select the **Allow Add/Change Operator** permission and any other desired permissions in the **Permissions** section. The **Allow Add/Change Operator** permission must be selected.
8. Click the **Save changes** button.

Figure 47: Operator Administration window with selected permissions

9. The **Confirm Windows Lock Down** message appears (Figure 48); click **Yes**.

Figure 48: "Confirm Windows Lock Down" message

10. The **Reboot Required** message appears (Figure 49); click **OK**.

Figure 49: "Reboot Required" message

11. Click the **Done** button.
12. Close the LVS-95XX software and then restart the computer.
13. The computer is in lockdown mode when restarted and all Windows® desktop functionality is disabled. For example, the desktop appears blank and no taskbar appears at the bottom of the screen (Figure 50).

Figure 50: Example of lockdown mode

Shut Down the System

To shut down the system while Windows® is locked down:

1. Click the red X located in the top, right corner of the screen; the LVS-95XX software shuts down.
2. Press the computer's power button to shut down the system.

Unlock

To unlock a Windows® XP operating system, follow the steps below:

1. Log out of the LVS-95XX software by clicking the **Welcome** tab. Click **Yes** when asked to confirm log off.
2. Click any tab to log back in to the LVS-95XX software.
   - Enter Windows as your Operator ID.
   - Enter your user-defined password.
   - Click the Ok button.
3. On the **Setup** tab, click the **Setup Operators** button.
4. Select **Windows** from the Operator list and then click the **Delete this operator** button (Figure 51).

Figure 51: Select "Windows" and then click "Delete this operator"

5. Click **Yes** when the **Confirm Windows Lock Down** message appears.
6. Click **Ok** when the **Reboot Required** message appears.
7. Follow any other onscreen prompts.
8. Close the LVS-95XX software by clicking the red X located in the top, right corner of the screen; the screen turns blank.
9. Reboot the computer by pressing the computer's power button to shut down the system. After the system shuts down, press the computer's power button to turn on the system. When prompted, enter your desired Operator ID and Name to log on to the system.
10. The Windows® desktop is now unlocked and has returned to normal mode.

Account Password Reset

After attempting to log in to an account three times with an incorrect password, the LVS-95XX software disables the account to prevent unauthorized users from repeatedly attempting to gain access to the account. The account must be altered (i.e. password change or permission change) to reset the account and enable log in access again. This example demonstrates how to reset the default administrator account (Admin) and holds true for all LVS-95XX user accounts. Any administrator account can reset any other account (including other administrator accounts). To reset the disabled account, follow the steps below.

1. If all administrator accounts (including the default administrator account - Admin) are disabled, call Microscan or a Microscan distributor to obtain the Master Administrator password.
2. Log in to the LVS-95XX software by clicking the **Setup** tab (Figure 52). The **Login** box appears (Figure 53).

Figure 52: Setup tab

Figure 53: Login box

3. Enter **lvs** (not case sensitive) in the **Operator ID** field.
4. Enter **lvs** (not case sensitive) followed by the password provided by Microscan in the **Password** field. For example, if **1234** is the password of day, you would enter **lvs1234**.
5. Click the **OK** button. You are now logged in to the LVS-95XX system.
6. Click the **Setup** tab, and then click **Setup operators** (Figure 54).

Figure 54: Click "Setup operators" on the "Setup" tab

7. Click the desired operator name from the Operators list. Click **Admin** if resetting the default Administrator password (Figure 55).

Figure 55: Click the desired name from the "Operators" list

8. Click the **Change this operator** button.

Figure 56: "Change this operator" button

9. Uncheck any permission from the **Permissions** list, and then re-check the permission. It does not matter which permission is unchecked/checked, as the software is only detecting that a change to the user account occurs.

Figure 57: Uncheck and then re-check any permission

10. Click the **Save changes** button. Save changes becomes active only after a change to the account. Next, click the **Done** button. The **Done** button will be enabled only after the **Save changes** button is clicked.

Figure 58: Click "Save changes" and then "Done"

11. The account is enabled again. Log out, and then log back in to the LVS-95XX software using the newly reset account user name and password.

Note: If the reason the account was disabled was the password is unknown (not simply entered incorrectly three times) instead of changing a permission (step 9 above), enter a new password in the **Password** field, click **Save Changes**, and click **Done**. Log out, and then log back in to the LVS-95XX software using the newly reset account user name and password.

Application Standard Shortcut Keys

An application standard is a specific protocol established by a group or industry, such as the military, hospitals, Food and Drug Administration (FDA), etc. Select application standards from the “Setup” tab (within the “Application standards” section) or by using the default shortcut keys listed below. Shortcut keys allow you to quickly change application standards in the LVS-95XX software at any time from any tab or screen excluding the Welcome Screen.

Shortcut Key	**Application Standard**
SHIFT+F	FPMAJ
SHIFT+G	GS1 General Specifications
SHIFT+I	ISO/IEC 15415/15416
SHIFT+P	Postal (Intelligent Mail, PostNet, Japan Post)
SHIFT+U	USPS Code 128

See the sections below to:

- View Application Standard Shortcut Keys Already Defined
- Assign or Reassign Application Standard Shortcut Keys

View Application Standard Shortcut Keys Already Defined

Follow the steps below to view application standard shortcut keys already defined in the LVS-95XX software.

1. Click the “Archive” tab.
2. Type the following command in the “Query” field located at the bottom of the screen. Letters are not case sensitive.

   Select ShortName, LongName, ShortCutKey From ApplicationStandards Where ShortCutKey > "" Order By ShortName

---

Tip: If you copy and paste the query from this document, check the quotation marks to make sure they are identical (i.e. facing the same direction). If they are not identical, edit the quotation marks so they face the same direction and are identical.

Figure 59: Enter the following command: Select ShortName, LongName, ShortCutKey From ApplicationStandards Where ShortCutKey > "" Order By ShortName

3. Click the “Execute query” button.
4. A list of application standards (including short name and long name) and shortcut keys already defined in the LVS-95XX software appear.

Figure 60: List of already defined application standards (including short name and long name) and shortcut keys

Assign or Reassign Application Standard Shortcut Keys

Follow the steps below to assign a shortcut key to an application standard, or reassign the default shortcut keys listed in the “Application Standard Shortcut Keys” section.

1. Log on to the LVS-95XX software.
   - Enter **lvs** (in uppercase or lowercase letters) in the “Operator ID” field.
   - Enter the password provided by Microscan technical support in the “Password” field.
   - Click the “OK” button. You are now logged on to the LVS-95XX system.
2. Click the “Archive” tab.
3. To get a complete list of the application standards and their names, type the following command in the “Query” field located at the bottom of the screen. Letters are not case sensitive.

   Select ShortName, LongName, ShortCutKey From ApplicationStandards Order By ShortName

Figure 61: Enter the following command: Select ShortName, LongName, ShortCutKey From ApplicationStandards Order By ShortName

4. Click the “Execute query” button.
5. A list of application standards appear, including an application standard’s short name (denoted in the “ShortName” column), full name (denoted in the “LongName”column), and assigned shortcut key. Use the vertical scroll bar to view the entire list of application standards.

Figure 62: List of application standards including short name, long name, and assigned shortcut key

6. Locate the desired application standard’s short name and make note of it as you will enter the short name in the next step.
7. Delete the command in the “Query” field and enter the following command. Letters are not case sensitive.

   Update ApplicationStandards Set ShortCutKey = "**X**" Where ShortName = "**Y**"

   - Replace the **X** in the above command with the desired shortcut key (use only a capital letter from A to Z).

- Replace the **Y** in the above command with the application standard's short name as identified in the previous step.

  Example: To assign "Shift + L" the shortcut key for the "Laetus Pharmacode" application standard, enter the following command in the "Query" field:

  Update ApplicationStandards Set ShortCutKey = "L" Where ShortName = "Pharmacode"

  If you copy and paste the query from this document, check the quotation marks to make sure they are identical (i.e. facing the same direction). If they are not identical, edit the quotation marks so they face the same direction and are identical.

Figure 63: Use the following command to assign "Shift + L" as the shortcut key for the "Laetus Pharmacode" application standard: Update ApplicationStandards Set ShortCutKey = "L" Where ShortName = "Pharmacode"

8. Click the "Execute query" button.
   - An "Operation Successful" message appears if the operation is successful.

Figure 64: Operation successful message

   - If an error occurs:
     - Make sure you are logged into the software using a Microscan administrator user name and password. Users not logged on as an administrator will receive the following Query Error message (Figure 65) when executing the command in the "Query" field.

Figure 65: Example query error message when not logged into the software as a Microscan administrator.

     - If you copied and pasted the query from this document, check the quotation marks; if they are not identical (i.e. facing different directions), edit them and try the query again. Figure 66 is a sample error message that appears when the syntax of the command is incorrect.

Figure 66: Example query error message when the syntax of the command is incorrect.

     - If error messages continue to appear, contact Microscan or a Microscan distributor for resolution assistance.

9. Log out of the LVS-95XX system and log back in using your designated Operator ID and Password. The newly assigned or reassigned shortcut keys are available for use.

Decimal Grading

The LVS-95XX software uses decimal grading by default for 2D matrix symbols. Decimal grading provides higher precision than strict ISO grading. ISO grading provides only five possible grades (0, 1, 2, 3, and 4). Decimal grading uses the tenths decimal place in combination with the published ISO parameter value range to provide higher precision in grading symbols. Using Modulation as an example, ISO provides the following grading table.

SC = Symbol Contrast	Grade
>= 70%	4.0
>= 55%	3.0
>= 40%	2.0
>= 20%	1.0
< 20%	0.0

As shown in the above ISO table an 85% contrast results in a grade of 4.0 (A). A 70% contrast results in a grade of 4.0 (A) as well. According to the table, a 69.99% contrast receives a grade of 3.0 (B). The integer grading provided by ISO does not distinguish well between a good solid 4.0 (85%) and a weak 4.0 (70%). ISO integer grading does not allow the user to see when a number grade is on the border of falling to a lower integer grade. More specifically, the ISO grading scale does not allow a user to easily see symbol quality is waning and will soon drop a full grade level. A user must be familiar with the actual parameter values (and monitor them individually) to know if the symbol is on the border of a lower grade or sitting solidly at the assigned grade.

Microscan has improved the ISO chart above by extrapolating the parameter values to assign grades using decimals thereby providing greater grading precision. The Microscan grading should be rounded to the nearest integer to return to strict ISO grading. In the Microscan grading chart below, an 85% contrast is assigned a 4.0 (A) just like the ISO grading chart. However, the 70% contrast is assigned a grade of 3.5 (A). Both 3.5 and 4.0 are assigned A grades in the Microscan grading system. However, it is very apparent that a 3.5 (A) or 70% contrast is not the same as a 4.0 (A) or 85% contrast. Convert the Microscan grade to strict ISO grading by simply rounding the Microscan grade; in this case 3.5 (A) rounds to 4.0 (A). The chart below is not complete but provides the bases of the Microscan grading in comparison to strict ISO grading showing the conversion.

SC = Symbol Contrast	Microscan Grade	Microscan Grade Rounded to Nearest Integer	GS1/ISO 15415 Grade
85%	4.0	4.0	4.0
80%	4.0	4.0	4.0
75%	3.8	4.0	4.0
70%	3.5	4.0	4.0
65%	3.2	3.0	3.0
60%	2.8	3.0	3.0
55%	2.5	3.0	3.0
50%	2.2	2.0	2.0
↓	↓	↓	↓
0%	0.0	0.0	0.0

Microscan grading is an option provided because Microscan believes it improves on the ISO grading system by providing higher precision. By way of analogy, the ISO system is like a car whose speedometer provides speed readings in increments of 10 mph increments. The speedometer tells the user they are moving 0 mph, 10 mph, 20 mph, 30 mph, or 40 mph. By using the decimal, the Microscan speedometer gives the user 1 mph increments between the major increments of 0, 10, 20, 30, and 40 mph.

Disable Decimal Grading

Disable decimal grading by following the steps below.

1. Log on to the LVS-95XX.
   - Enter **lvs** (in uppercase or lowercase letters) in the “Operator ID” field.
   - Enter the password provided by Microscan technical support in the “Password” field.
   - Click the “OK” button; you are now logged on to the LVS-95XX system.
2. Click the “Archive” tab.
3. Enter the following command in the “Query” text box located at the bottom of the screen. Letters are not case sensitive.
   - To disable decimal grading, enter: update settings set settingvalue = “0” where settingname = “DecimalGrading”

Figure 67: Enter the following command to disable decimal grading: update settings set settingvalue = “0” where settingname = “DecimalGrading”

   - To enable decimal grading, enter: update settings set settingvalue = “1” where settingname = “DecimalGrading”

Figure 68: Enter the following command to enable decimal grading: update settings set settingvalue = “1” where settingname = “DecimalGrading”

Active Directory

The LVS-95XX software integrates with Microsoft® Active Directory to manage operator permissions. LVS-95XX operators are granted operator privileges based on Microsoft® authentication and LVS-95XX permissions are assigned based on group membership in Microscan-specific Active Directory groups. Production operators will see no change in the user interface or operation of the LVS-95XX software when Active Directory permissions are enabled.

When Active Directory (AD) is enabled on each start of the LVS-95XX software, the LVS-95XX system will connect over the network to the specified Microsoft® AD domain controller. The LVS-95XX system will update the database Operators table to contain the user names and permissions as defined in the Active Directory. The LVS-95XX users created are in the AD Group specified in the “AD LVS All Users Group” configuration setting (see next section for more information).

When Active Directory is enabled, user passwords, password expiration dates, and failed password counts are not stored locally in the LVS-95XX database. Microsoft® Active Directory policies will manage user password restrictions and policies. When a user enters his/her user name and password in the LVS-95XX system, the credentials are verified with the current user name and password in the AD. The “Operator Administration” screen (see below) in the LVS-95XX system can be used to view the current users and their permissions, but the “Add new operator,” “Change this operator,” and “Delete this operator” buttons are disabled. When users are disabled or deleted from AD, their access to the LVS-95XX system login is immediately disabled even if the LVS-95XX system has not been restarted.

The default administrator account (admin) is a special, unique login. It is not managed in AD and remains in the local LVS-95XX system database. All new installations create a default administrator user with the User Name and Password set to **admin**. The admin user password is stored in the local LVS-95XX system database to allow access to the system in case there is a network outage. This provides the option of operating the LVS-95XX system without Active Directory user authentication. With Active Directory enabled, the admin user is the only user that can be modified using the LVS-95XX system Operator Administration interface. The admin user name and password can be changed and deleted if desired; however, if the admin user name is changed or deleted and the LVS-95XX system loses connection to the Active Directory Server or Active Directory is disabled, then no user will exist who has access to enable Active Directory or manage users in a standalone mode.

Active Directory control of LVS-95XX system users provides a single, secure record of authentication and authorization. Control of all AD changes is managed through AD Group policy and ownership.

Enable Active Directory and Manage Operator Permissions

You must establish the Microsoft® AD required groups before completing the steps below. Below is an example of a Microsoft® AD environment matching the Microscan AD configuration settings shown in the steps below. Your entries may be different depending on your AD environment and the group names you choose.

1. Login to the LVS-95XX system (you must be granted the “Allow Change Setup Options” permission).
2. On the **Setup** tab, click the **Setup operators** button.

3. On the Operator Administration screen, click the Active Directory Setup button.

4. On the **Active Directory Settings** screen, click the **Enable Active Directory Operator Administration** checkbox. The Active Directory Settings fields appear.

   Unchecking this box disables AD user administration.

5. Complete each field on the screen. To successfully enable AD user administration, all fields are required except for the AD Server Name which is optional.

   The screenshot below is an example of a completed Active Directory Settings screen. Your entries will be different depending on your AD environment and the group names you choose. A description of each field is provided in the table below. Each of the Permission Groups can contain Users and other Groups containing users.

Field	Description
AD Server Name (optional)	Enter the name Active Directory Server name where LVS Org unit and users are located. This is an **optional** value; however, it will improve performance if provided.
AD Domain	Enter the name of the Microsoft® AD Domain. Examples: lvs-inc.com, ENGINEERING.local
AD LVS Organizational Unit	Enter the AD Organizational Unit containing all of the other LVS-95XX Permission Groups. The data entry format must conform to standard Active Directory object naming syntax. This allows you to enter the full path of the org unit, back to the root. Example: ou=LVS9500 Permissions,ou=LVS Permissions,ou=LVS Systems
AD LVS All Users Group	Enter the AD Security Group containing all domain users who are accessing to the LVS-95XX system. The formatting of data entry must conform to standard Active Directory object naming syntax. In the example below the cn= designates that LVS9500Grp1Users is a Group. It must be a Group, not an Org Unit or Container. This allows the LVS All Users Group to be defined in a location outside of the LVS Org Unit if desired. The LVS All Users Group can contain Users and other Security Groups containing users. Example: cn=LVS9500Grp1Users,ou=LVS9500Users,ou=ValidationUsers
Allow Add/Change Operator	Enter the AD Security Group containing all users to be granted the “Allow Add/Change Operator” permission (allows the administrator to assign

Field	Description
	permission levels for all other system users) on the LVS-95XX system. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowAddChangeOperator
Allow Calibration	Enter the AD Security Group containing all users to be granted the "Allow Calibration" permission (allows the operator to calibrate the system) on the LVS-95XX system. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowCalibration
Allow Change Setup Options	Enter the AD Security Group containing all users to be granted the "Allow Change Setup Options" permission (allows the operator access to set any of the "Setup Tab" screen parameters) on the LVS-95XX system. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowChangeSetup
Allow Pass/Fail ISO	Enter the AD Security Group containing all users to be granted the "Allow Pass/Fail ISO" permission (allows the operator to set different Pass/Fail levels) on the LVS-95XX system. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowPassFailISO
Allow Full ISO	Enter the AD Security Group containing all users to be granted access the "Allow Full ISO" permission (allows the operator to set different full ISO levels) on the LVS-95XX system. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowFullISO
Allow Create or Edit Application	Enter the AD Security Group containing all users to be granted the "Allow Create or Edit App" permission (allows the operator to create or edit special features such the "multiple sectors verification option") on the LVS-95XX system. This permission is an upgraded feature and is available at an additional cost. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowCreateEdit
Allow Change Archive File	Enter the AD Security Group containing all users to be granted the "Allow Change Archive File" permission (allows the operator to change the archive file located on the "Archive" tab) on the LVS-95XX system. The group must be located in the ActiveDirectoryLVSOrgUnit. Example: LVS95XXAllowChangeArchive

6. Click the **Test AD Settings** button to test if the settings entered in the above fields match the settings defined in AD.
   A. **If the settings match,** an "Active Directory Connection Passed" message appears. Click **OK** to proceed. The "Active Directory Settings" screen appears. Click the **Close** button. Active Directory is enabled.

When Active Directory is enabled, the "Active Directory is Enabled" status message appears in red font.

B. **If any setting does not match,** a failure message appears for the setting. The failed setting is identified in the message. In the failed message below, the **AD LVS All Users Group** setting is not entered correctly ("LVS9500Us" is not the setting defined in AD). Click **OK**.

The following message appears indicating all Active Directory Group connection issues must be resolved and provides the option to continue or quit AD configuration.

- Click **Yes** to continue AD configuration and make any necessary changes to the settings on the "Active Directory Settings" screen.

- Click **No** to discontinue AD configuration. The entries entered on the "Active Directory Settings" screen are saved, but AD will not be enabled. The "Active Directory Settings" screen will close and the software will return to the "Operator Administration" screen.